

#### 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME : Tetraborate pH Standard Solution pH9S  
MANUFACTURER : FUJI SEIMITSU DENKI Co., LTD.  
SUPPLIER : FUJI SEIMITSU DENKI Co., LTD..  
ADDRESS : 15-14, Meguroi 2-chome, Meguro-ku, Tokyo, 153-0063, Japan  
TELEPHONE NUMBER:03-3716-3441  
EMERGENCY TELEPHONE NUMBER: 03-3716-3441

#### 2. COMPOSITION/INFORMATION ON INGREDIENTS

Substance/Mixture: Substance  
CHEMICAL NAME : Sodium tetraborate decahydrate  
SYNONYMS : Borax glass; Disodium tetraborate  
FORMULA : Na<sub>2</sub>B<sub>4</sub>O<sub>7</sub>  
Ingredients and composition: 0.009964mol/l Sodium tetoraborate decahydrate  
MOLECULAR WEIGHT : 201.22  
CAS NUMBER : 1330-43-4  
TSCA INVENTORY : Listed  
EINECS No. : 215-540-4  
IDENTIFICATION OF DANGER ;  
SYMBOL : -----  
R-phrases : -----

#### 3. HAZARDS IDENTIFICATION

May be harmful if inhaled and ingested.  
May cause eye and skin irritation.

#### 4. FIRST AID MEASURES

GENERAL ADVICE : Wash off immediately with soap and plenty of water. In the case of respirable dust and/or fumes, use self-contained breathing apparatus and dust impervious protective suit. Use personal protective equipment.  
INHALATION : Move victim to fresh air. If breathing is difficult, give oxygen. If irritation persists, consult a physician.  
SKIN CONTACT : Remove contaminated clothes and shoes, rinse skin with plenty of water or shower. Use soap to help assure removal. If irritation persists, consult a physician.  
EYE CONTACT : Remove any contact lenses at once. Flush eyes well with a large amount of running water for at least 15 minutes. Assure adequate flushing by separating the eyelids with sterile fingers. If irritation persists, consult a physician.  
INGESTION : Rinse mouth, give plenty of water to dilute the substance. Never give anything by mouth to an unconscious person. Consult a physician.

## 5. FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA : Carbon dioxide, dry chemical powder, foam, water

FIRE & EXPLOSION HAZARDS : Toxic and irritating fumes or smoke may be emitted.

SPECIAL PROTECTIVE EQUIPMENT FOR FIREFIGHTERS : Firemen should wear normal protective equipment(full bunker gear)and positive-pressure self-contained breathing apparatus.

## 6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS : Remove ignition sources and ventilate the area. In case of insufficient ventilation, wear suitable respiratory equipment. Avoid contact with skin and eyes.

ENVIRONMENTAL PRECAUTIONS : Prevent spills from entering sewers, watercourses or low areas.

METHODS FOR CLEAN UP : Do not touch spilled material without suitable protection(See section 8). Take up spilled material with ashes or other absorbents. After material is completely picked up, wash the spill site with soap and water and ventilate the area. Put all wastes in a plastic bag for disposal and seal it tightly. Remove, clean, or dispose of contaminated clothing.

## 7. HANDLING AND STORAGE

Research use only.

HANDLING : Avoid contact with eyes, skin and clothing. Avoid prolonged or repeated exposure. Handle material with suitable protection.

STORAGE : Store away from sunlight in well-ventilated dry place at room temperature (< 25°C = 77° F). Keep container tightly closed.

INCOMPATIBLE PRODUCTS : Water-reactive materials (alkali metals etc.)

CAUTION : Shake well before use.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING MEASURES : Use exhaust ventilation to keep airborne concentrations below exposure limits. Use only with adequate ventilation.

VENTILATION : Local Exhaust ; Necessary, Mechanical(General) ; Recommended

PERSONAL PROTECTION ;

Respiratory protection : Use a NIOSH/MSHA or European Standard EN149 approved respirator if the vapor concentrations exceed regulatory guidelines.

Hand protection : Chemical resistant gloves

Eye protection : Safety glasses(goggles)

Skin protection : Protective clothing

CONTROL PARAMETER :

OSHA Final Limits : None established

ACGIH TLV(s) : TWA= 1 mg/m<sup>3</sup>

#### 9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE : Colorless clear liquid  
ODOR : Not available  
pH : 9.165 to 9.195 (at 25 °C = 77 ° F)  
BOILING POINT : Not available  
MELTING POINT : Not available  
FLASH POINT : (Nonflammable)  
FLAMMABILITY (solid, gas) : ----  
DECOMPOSITION TEMPERATURE : Not available  
EXPLOSIVE LIMITS : Not available  
VAPOR PRESSURE : Not available  
SPECIFIC GRAVITY : Not available  
SOLUBILITY IN ;  
WATER : Miscible  
ACETONE : Miscible  
log Po/w : Not available

#### 10. STABILITY AND REACTIVITY

CONDITION TO AVOID : Sunlight, heat  
INCOMPATIBILITY(MATERIAL TO AVOID) : Water-reactive materials (alkali metals etc.)  
HAZARDOUS DECOMPOSITION PRODUCTS : Boron compounds may be formed.  
HAZARDOUS POLYMERIZATION : Will not occur.

#### 11. TOXICOLOGICAL INFORMATION

As Sodium Tetraborate;  
ACUTE TOXICITY DATA : LD50(oral,rat): 1200mg/kg(VCVN1\* -, 193, 1988)  
LD50(oral,mouse): 1060mg/kg(VCVN1\* -, 193, 1988)  
IRRITATION DATA : Not available  
MUTATION DATA : Not available  
REPRODUCTIVE EFFECTS DATA : TDLo(oral,rat): 16750µg/kg(30 D male); Paternal Effects - testes, epididymis, sperm duct(EVHPAZ 13,59,1976)  
TUMORIGENIC DATA : Not available  
ADDITIONAL INFORMATION ;  
NTP : Not listed  
IARC : Not listed  
OSHA : Not listed  
ACGIH : Not listed

#### 12. ECOLOGICAL INFORMATION

BIODEGRADABILITY : Not available  
BIOACCUMULATION POTENTIAL : Not available  
AQUATIC TOXICITY : Not available  
OTHER INFORMATION : WGK; 1

#### 13. DISPOSAL CONSIDERATION

Take up the material with combustible absorbents and burn in small portion in a chemical incinerator equipped with an afterburner and scrubber in accordance with all applicable regulations. Any disposal practice must be in compliance with country, local, state, and federal laws and regulations ( contact country, local or state environmental agency for specific rules ).

FUJI SEIMITSU DENKI Co.,LTD.

14. TRANSPORT INFORMATION

IATA : Not Restricted.

DOT(Department of Transportation) : Not a Hazardous Material for DOT shipping.

15. REGULATORY INFORMATION

US REGULATIONS ;

as Sodium tetraborate

NIOSH Recommend. Subst., Mass. Subst. List , Penn. Haz. Subst. List , Canad. WHMIS IDL 1% conc.

EPA : CERCLA RQ= Not listed

EPCRA TPQ= Not listed

FIFRA 1998 STATUS OF PESTICIDES: RED Completed

OSHA : TQ= Not listed

EU REGULATIONS ;

SYMBOL : -----

R-phrases : -----

S-phrases : -----

EC index No. : Not listed

16. OTHER INFORMATION

No specific notes